



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

| APPLICATION NO | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO   | CONFIRMATION NO |
|----------------|-------------|----------------------|----------------------|-----------------|
| 09 937,033     | 09 21 2001  | Thierry Linossier    | IF-870-Cas 156 GE-AG | 6295            |

466 7590 02 12 2003

YOUNG & THOMPSON  
745 SOUTH 23RD STREET 2ND FLOOR  
ARLINGTON, VA 22202

EXAMINER

MAYO III, WILLIAM H

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2831

DATE MAILED: 02 12 2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/937,033

Applicant(s)

LINOSSIER, THIERRY

Examiner

William H. Mayo III

Art Unit

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1) ☐ Responsive to communication(s) filed on 02 January 2003

2a) ☐ This action is **FINAL**.

2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4) ☒ Claim(s) 1-13 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☒ Claim(s) 1-13 is/are rejected.

7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.

8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some \* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_

4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. In view of the King et al (Pat Num 4,404,424), the allowability of claim 12 is withdrawn. The examiner apologizes for any inconvenience this action may cause.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claim 1 recites the limitation "the cable segment" in line 5, which is confusing and renders the claim indefinite. It is unclear whether the applicant is referring to the previous mentioned "at least one cable segment" or introducing a new cable segment. If the applicant is referring to the previous mentioned term, then he/she should recite the term with consistency. If the applicant is referring to a new cable segment, then he/she should make the term more distinguishable.
5. Claim 13 recites the limitation "the cable segment" in line 4, which is confusing and renders the claim indefinite. It is unclear whether the applicant is referring to the previous mentioned "at least one cable segment" or introducing a new cable segment. If the applicant is referring to the previous mentioned term, then he/she should recite the

Art Unit: 2831

term with consistency. If the applicant is referring to a new cable segment, then he/she should make the term more distinguishable.

6. Claim 12 recites the limitation "the pair" in line 2, which is confusing and renders the claim indefinite. It is unclear whether the applicant is referring to the previous mentioned "a pair of insulated conductors" or introducing a new pair. If the applicant is referring to the previous mentioned term, then he/she should recite the term with consistency. If the applicant is referring to a new pair, then he/she should make the term more distinguishable.

7. Claim 12 recites the limitation "the insulation" in line 4. There is insufficient antecedent basis for this limitation in the claim because there has not been any previous reference to an insulation in previous lines of the claims.

8. Claim 12 recites the limitation "the conductors" in line 5, which is confusing and renders the claim indefinite. It is unclear whether the applicant is referring to the previous mentioned "a pair of insulated conductors" or introducing a new conductors. If the applicant is referring to the previous mentioned term, then he/she should recite the term with consistency. If the applicant is referring to a new conductors, then he/she should make the term more distinguishable.

9. Claim 13 recites the limitation "the pair" in line 6, which is confusing and renders the claim indefinite. It is unclear whether the applicant is referring to the previous mentioned "a pair of insulated conductors" or introducing a new pair. If the applicant is referring to the previous mentioned term, then he/she should recite the term with

Art Unit: 2831

consistency. If the applicant is referring to a new pair, then he/she should make the term more distinguishable.

10. Claim 13 recites the limitation "the insulation" in line 9. There is insufficient antecedent basis for this limitation in the claim because there has not been any previous reference to an insulation in previous lines of the claims.

11. Claim 13 recites the limitation "the conductors" in line 9, which is confusing and renders the claim indefinite. It is unclear whether the applicant is referring to the previous mentioned "a pair of insulated conductors" or introducing a new conductors. If the applicant is referring to the previous mentioned term, then he/she should recite the term with consistency. If the applicant is referring to a new conductors, then he/she should make the term more distinguishable.

### ***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith (Pat Num 5,321,372). Smith discloses cable (Figs 1-4) capable of radiating comprising a pair of conductor wires (203-206) for use in a computer network (abstract). Specifically, with respect to claim 1, Smith discloses a cable (100-Fig 1) comprising a pair of conductor wires (203-206, Fig 2) wherein at least one cable segment (left side

Art Unit: 2831

under 103) has first ends connected to a load (i.e. DTE, 101), wherein the load (101) is equal to an impedance characteristic of the cable segment (Col 4, lines 48-58) and second ends connected to a connector (i.e. concentrators, 102). With respect to claim 2, Smith discloses that at least two cable segments (left and right sides) may be connected in parallel configuration (Fig 1, Col 6, lines 45-53). With respect to claim 3, Smith discloses that the two cable segments (left and right sides under 103) are identical (Fig 1). With respect to claim 4, Smith discloses that the conductor wires (203-206) are inserted in a supporting sheath (202, Fig 2). With respect to claim 5, Smith discloses that the conductor wires (203-206) are twisted together (Fig 2).

### ***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 6-8 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (Pat Num 5,321,372) in view of King et al (Pat Num 4,404,424, herein referred to as King). Smith discloses cable (Figs 1-4) capable of radiating comprising a pair of conductor wires (203-206) for use in a computer network (abstract) as detailed above with respect to claim 1. Specifically, with respect to claim 6, Smith discloses that the conductor wires (203-206) are twisted at a pitch (Fig 2). With respect to claim 13, Smith discloses a cable (100-Fig 1) comprising a pair of conductor wires (203-206, Fig

Art Unit: 2831

2) wherein at least one cable segment (left side under 103) has first ends connected to a load (i.e. DTE, 101), wherein the load (101) is equal to an impedance characteristic of the cable segment (Col 4, lines 48-58) and second ends connected to a connector (i.e. concentrators, 102).

However, Smith doesn't necessarily disclose the conductor wires being twisted at a pitch in the range of 15 to 30 times the diameter (claim 6), nor the wires being twisted alternatively with right handed and with left handed twist (claim 7), nor the portion of the cable being twisted with right handed twisted being separated from a portion of cable with left handed twist by a portion of the cable that has parallel wires (claim 8), nor the two wires of the conductor pair differing in at least one parameter comprising conductor diameter, conductor nature or structure, thickness of insulation, or the nature of the insulation (claims 12-13).

King teaches a cable (Fig 1) having a configuration that limits signal attenuation and distortion and provides precise control over the electrical parameters of the cable (Col 2, lines 30-35). Specifically, with respect to claim 6, King teaches a cable (10) having a pair (20) of insulated conductors (22), where the conductors (22) are twisted at a pitch of 0.100 inches, wherein the diameter of the conductor is 0.015 inches (i.e. 9 times the diameter of the wire (22)). With respect to claim 7, King teaches that the cable (10) comprises insulated conductor wires (22), wherein the wires (22) may be twisted alternatively with right handed and with left handed twist (i.e. counter rotation, Col 3, lines 9-11). With respect to claim 8, King teaches a cable (10) having insulated conductors (22), wherein the wires (422) may be twisted alternatively with right handed

Art Unit: 2831

and with left handed twist (i.e. counter rotation, Col 3, lines 9-11), wherein the portion of the cable (10) being twisted with right handed twisted (30, left of 3's showing cross section of Fig 1) may be separated from a portion of cable with left handed twist (30, right of 3's showing cross section of Fig 1) by a portion of the cable (10) that has parallel wires (32). With respect to claims 12-13, King teaches that the conductor wires (22) may differ by having different core widths (i.e. diameters, Col 4, lines 8-11) and the insulation material may also be varied (Col 5, lines 7-8)

With respect to claims 7-8 and 12-13, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the cable of Smith to comprise the conductor configuration as taught by King because King teaches that such a configuration limits signal attenuation and distortion and provides precise control over the electrical parameters of the cable (Col 2, lines 30-35).

With respect to claim 6, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the twist pitch of Smith to comprise a pitch in the range of 15 to 30 times the diameter as taught by Smith, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

16. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (Pat Num 5,321,372) in view of Smith (Pat Num 4,339,733, herein referred to as Smith2). Smith discloses cable (Figs 1-4) capable of radiating comprising a pair of



Art Unit: 2831

conductor wires (203-206) for use in a computer network (abstract) as detailed above with respect to claim 1.

However, Smith doesn't necessarily disclose the cable including a dielectric tape in contact with the insulated conductor wires (claim 9), nor the cable further comprising metal tape helically wrapped without overlap around the conductor wires (claim 10), nor the comprising metal tape helically wrapped without overlap around the conductor wires and extending between the dielectric tape and the outer supporting sheath (claim 11).

Smith2 teaches an improved radiating cable (Figs 1-3) that eliminates or minimizes degrading environments effects on the performance of the cable and significantly decreases attenuation along the transmission line (Col 1, lines 55-60). Specifically, with respect to claim 1, Smith2 teaches a cable (10, Fig 3) comprising insulated conductor (11 & 12). With respect to claim 9, Smith2 teaches a cable (10, Fig 3) comprising insulated conductor (11 & 12), that is surrounded by a dielectric (14), that may be a tape (i.e. laminate, Col 2, lines 13-19), which is in electrical contact with the insulated conductor (11 & 12). With respect to claim 10, Smith2 teaches that the cable (10) further includes metal tapes (15) that may be helically wrapped (Fig 3) without overlap around the insulated conductor (11 & 12). With respect to claim 11, Smith2 teaches that the cable (10) further includes metal tapes (15) that may be helically wrapped (Fig 3) without overlap around the insulated conductor (11 & 12) and extend between the dielectric tape (14) and the outer supporting jacket (16).

With respect to claims 9-11, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the cable of Smith

to comprise the conductor and cable configuration as taught by Smith2 because Smith2 teaches that such a configuration eliminates or minimizes degrading environments effects on the performance of the cable and significantly decreases attenuation along the transmission line (Col 1, lines 55-60).

### ***Response to Arguments***

17. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

18. Based on the withdrawal of allowability of claim 12, this action is non final.

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are Bonjour et al (Pat Num 4,837,405), which discloses conductor pairs being twisted along with section wherein the conductors are parallel, Harman et al (Pat Num 5,247,270), Willis (Pat Num 4,280,225), both of which disclose radiating coaxial cables, Sullivan et al (Pat Num 4,370,076), Johannessen et al (GB Pat Num 1,431,243), Devicque (EP Pat Num 0469506), both of which disclose radiating coaxial cables attached to loads, Harman (Pat Num 5,534,869), Narbais-Jaureguy et al (Pat Num 3,906,492), Foglia (Pat Num 4,885,747), Ernest et al (Pat Num 5,381,348), Adriaenssens et al (Pat Num 5,113,159), and Zetena, Jr. (Pat Num 4,860,343), all of which disclose twisted conductor pairs being connecting to loads.

Art Unit: 2831

**Communication**

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (703) 306-9061. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (703) 308-3682. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



WHM III  
February 7, 2003